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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/981,496 | 10/17/2001 | Raymond C. Kwong | UDC-0008 | 6929 |

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[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

1774

DATE MAILED: 07/01/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/981,496 | KWONG ET AL. | |
| | Examiner | Art Unit | |
| | Marie R. Yamnitzky | 1774 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 October 2001 and 26 February 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-141 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-141 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6</u> . | 6) <input type="checkbox"/> Other: _____ |

1. The disclosure is objected to because of the following informalities:

The missing application number needs to be provided for the blank line at page 3, line 3, page 20, line 15, and page 29, line 14. (The examiner expects that the referenced application is Application No. 09/978,455.)

The description of Fig. 7 and Fig. 8 as set forth at page 17 in the Brief Description of the Drawings, in the paragraph bridging pages 25 and 26, and in the paragraph bridging pages 33 and 34, is confusing. It is not clear how Fig. 7 and Fig. 8 illustrate HOMO and/or LUMO.

The paragraph bridging pages 30 and 31 twice recites "...U.S. Ser. Nos. 60/317,540 and 60/317,540, each of which...". Clarification is required since the two numbers are the same.

Appropriate correction is required.

2. The disclosure is also objected to because it contains an embedded hyperlink and/or other form of browser-executable code (at page 25, line 27). Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

3. Claims 5, 9-18, 25, 27, 36-40, 45-49, 66, 67, 76-81, 90-94, 102-107, 109-113, 128, 130 and 131 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scope of a "heavy metal" as required by claims 5, 40, 49, 94 and 113 is not clear. While the paragraph bridging pages 18 and 19 states that heavy metals "can include second and

third row transition metals, lanthanides, actinides, as well as main group metals having atomic numbers greater than 18", it is not certain if the scope of heavy metals as required by the claims encompasses any metals other than those in the quoted phrase. (The use of the phrase "can include" instead of "are" raises a question as to whether the metals set forth after "can include" are the totality of metals encompassed by the phrase "heavy metals".)

Claims 9-18, 36-39, 45-48, 90-93, 109-112: It is not clear if these claims are limiting the compound to one comprising A¹ and A², or if these claims are merely further defining optional ligands (optional because "m-n" may be zero). It is also unclear if the compound of claims 13-18, 37-39, 46-48, 91-93 and 110-112 is required to comprise said bidentate ligand, or if these claims are merely further defining the bidentate ligand.

Claim 25: Photoluminescence maximum is not always a constant. Photoluminescence maximum of a particular compound can vary depending upon the conditions under which this property is measured (such as at different temperatures, or measured in solution versus measured in film form). Claim 25 is indefinite because the claim does not specify the conditions under which the photoluminescence maximum must be in the specified wavelength range.

Claims 27, 76, 102 and 103: The meaning of the abbreviations is not set forth in the claims.

Claims 66 and 67: Claim 1 covers numerous compounds. In requiring an increase in the wavelength of a photoluminescence maximum (in the case of claim 66), or a decrease in the wavelength of a photoluminescence maximum (in the case of claim 67), it is not clear what the comparison point is. Must the comparison be made to a photoluminescence maximum of a

compound of claim 1 in which each of R¹ to R¹⁰ is H, or can the comparison be made between a photoluminescence maximum of any two compounds within the scope of claim 1?

Claims 78 and 104: Electroluminescence maximum is not always a constant.

Electroluminescence maximum of a particular electroluminescent device may vary depending upon the conditions under which this property is measured (such as at different voltages). These claims are indefinite because they do not specify the conditions under which the electroluminescence maximum must be in the specified wavelength range. Reference to “electroluminescence” also renders the scope of the claimed device unclear because the only limitation of the claimed light emitting device as set forth in claim 68, from which claim 78 depends, is the compound of Formula I, II or III, and “light emitting device” encompasses devices other than electroluminescent devices.

Claims 79 and 105: These claims are indefinite because the conditions under which the device must have the specified CIE coordinates are not set forth. The composition and structure of the claimed device is open and, depending on the composition and structure, the CIE coordinates for a particular device under all operating conditions is not necessarily constant. For example, a device comprising more than one light emitting material may emit light of different CIE coordinates at different voltages.

Claims 80, 81, 106 and 107: These claims are indefinite because external quantum efficiency for a particular device is not a constant and the conditions under which the device must exhibit the specified external quantum efficiency are not fully defined in the claims.

The limitations of claim 128 are inconsistent with the limitations of claim 119, from which claim 128 depends.

Claims 130 and 131: Claim 1 covers numerous compounds. In requiring an increase in the wavelength of an electroluminescence maximum (in the case of claim 130), or a decrease in the wavelength of an electroluminescence maximum (in the case of claim 131), it is not clear what the comparison point is. Must the comparison be made to an electroluminescence maximum of an electroluminescent device in which the emitting layer consists of a compound of claim 1 in which each of R¹ to R¹⁰ is H, or can the comparison be made between two devices comprising any two compounds within the scope of claim 1 with the possible presence of other materials or device structure that would affect the electroluminescence maximum?

4. Regarding claim interpretation:

R¹¹ and X are not explicitly defined for the formulae set forth in claim 11, and R¹ and R¹¹ are not explicitly defined for the formulae set forth in claim 14. For purposes of comparing to the prior art, the examiner has interpreted these claims as if R¹, R¹¹ and X of the formulae set forth in the dependent claims has the same meanings as R¹, R¹¹ and X, respectively, as set forth in claim 1.

While claim 19 appears to allow each of R¹ to R¹⁰ to be H, claim 19 is interpreted in light of claim 1's proviso that, for the compound of Formula I, at least one of R¹ to R¹⁰ is not H.

For purposes of comparing to the prior art, the examiner interprets claim 128 as if dependent directly from claim 117.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-7, 9-20, 24-27, 66-76, 78-81, 130-132 and 137 are rejected under 35 U.S.C. 102(e) as being anticipated by Igarashi et al. (US 2001/0019782 A1).

Igarashi et al. disclose compounds within the scope of compounds of present formula I, II or III, and discloses these compounds for use in a light-emitting device. See the whole published application. In particular, see formulae (1-8), (1-49), (1-53), (1-54), (1-56), (1-59), (1-60), (2-2), (2-4), (2-6), (2-7), (2-8), (2-12), (2-13), (2-14), (2-15), (2-18), (2-19) and (2-20), and see Examples 20, 22, 23, 24 and 27 on pages 31-32.

For example, the prior art compound of formula (1-56), which is used in the organic light emitting device of Igarashi's Example 27, is a compound of present formula III in which M is Ir, n is 2, m-n is 1, each of R¹ to R¹⁰ is H, and A¹ and A² are covalently joined together to form a bidentate ligand wherein the bidentate ligand is monoanionic, the bidentate ligand coordinates through a carbon atom and a nitrogen atom, the bidentate ligand is a biaryl compound, and the bidentate ligand has the first formula shown in present claim 17.

The prior art compound of formula (2-12), which is used in the organic light emitting device of Igarashi's Examples 20, 23 and 24, and the compound of formula (2-4), which is used

in the organic light emitting device of Igarashi's Example 22, are compounds of present formula I in which M is Ir, n is 2, m-n is 1, R² and R³, or R³ and R⁴, together form a fused 6-member aryl group (the remainder of R¹ to R¹⁰ each being H), and A¹ and A² are covalently joined together to form a bidentate ligand wherein the bidentate ligand has the first formula shown in present claim 15 and is acetylacetone.

The prior art compound of formula (1-8) is a compound of present Formula II in which M is Ir, n is 3, m-n is 0, and each of R¹ to R¹⁰ is H.

Of the other prior art formulae referenced above, formulae (2-2), (2-6), (2-7), (2-8), (2-13), (2-14), (2-15), (2-18), (2-19) and (2-20) represent compounds of present formula I, formulae (1-49) and (1-54) represent compounds of present formula II, and formulae (1-53), (1-59) and (1-60) represent compounds of present formula III.

With respect to present claims 9-11, Igarashi's compound of formula (1-8) anticipates the claimed compound if these claims are merely further defining an optional ligand rather than limiting the compound to one in which A¹ and A² are present.

With respect to present claims 25 and 78, see paragraph [0098], claim 9 of the published application, and the previously referenced Examples.

With respect to present claims 26, 27 and 74-76, the devices of Igarashi's Examples 20, 22, 23, 24 and 27 comprise a light emitting layer comprising a compound according to present claim 1 in combination with at least one other material. In the device of Example 20, the compound is provided in the light emitting layer in combination with compound A' having the

formula shown at the beginning of page 31. Compound A' is CBP presuming CBP stands for 4,4'-N,N'-dicarbazole-biphenyl.

With respect to present claims 66, 67, 130 and 131, one inherently performs the methods of these claims in providing the various compounds disclosed by Igarashi et al.

With respect to present claim 73, see claim 6 of the published application.

With respect to present claims 79-81, see paragraphs [0102]-[0103] and the previously referenced Examples.

7. Claims 1, 2, 5-7, 12, 13, 19, 21, 24-28, 32-34, 36, 40-42, 44, 45, 49-51, 66-69, 72-76, 78-82, 86-88, 90, 94-96, 98-102, 104-109, 113-115, 130-134 and 137-139 are rejected under 35 U.S.C. 102(e) as being anticipated by Grushin et al. (US 2002/0121638 A1).

The compound of formula (IV) as shown on page 3 and in claims 15 and 16 of Grushin's published application is a compound of present formula I in which M is Ir, n is 2, m-n is 1, each of R¹, R² and R⁴ to R¹⁰ is H, R³ is trifluoromethyl, and A¹ and A² are covalently joined together to form a bidentate ligand. This compound is disclosed for use in an emitting layer of a light emitting device. The compound and a device comprising the compound are claimed by Grushin et al.

With respect to present claims 26, 27, 73-76 and 99-102, see paragraph [0065].

The limitation of present claim 25 is considered to be inherent in the prior art compound of formula (IV), and the limitations of present claims 78-81 and 104-107 are considered to be inherent in a light emitting device made with the prior art compound of formula (IV).

With respect to present claims 66, 67, 130 and 131, one inherently performs the methods of these claims in providing the various compounds disclosed by Grushin et al.

8. Claims 1, 4-8, 12-14, 18-20, 22, 24-27, 65-68, 71-76, 78, 129-132, 136 and 137 are rejected under 35 U.S.C. 102(e) as being anticipated by Thompson et al. (US 2002/0034656 A1).

The applied reference has a common inventor with the instant application, but a different inventive entity. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

See the whole published application, especially Fig. 49, paragraphs [0052]-[0059] and [0183], and claims 69 and 70. Based on Thompson's teachings regarding compounds of formula L₂MX, one of ordinary skill in the art at the time of the invention would have at once envisaged compounds of present Formula III, and compositions and organic light emitting devices comprising such compounds, in which M is a metal (especially Ir or Pt), n is 2, m-n is 1, and A¹ and A² are covalently joined together to form a bidentate ligand wherein the bidentate ligand has any of the formulae shown in present claim 14. Based on the specific compounds disclosed by Thompson et al., it is the examiner's position that one of ordinary skill in the art at the time of the invention would have at once envisaged compounds of present Formula III, and compositions

and organic light emitting devices comprising such compounds, in which R¹ to R¹⁰ are selected from H, methyl and methoxy.

9. Claims 1, 2, 5-8, 12-14, 18-20, 23-43, 66-69, 72-76, 78, 82-102, 104, 130-133, 137 and 138 are rejected under 35 U.S.C. 102(e) as being anticipated by Lamansky et al. (US 2002/0182441 A1).

The applied reference has a common inventor with the instant application, but a different inventive entity. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

See the whole published application, especially claims 1, 5 and 7-9. Based on Lamansky's teachings, and especially based on claims 5 and 7-9 of the published application, one of ordinary skill in the art at the time of the invention would have at once envisaged compounds of present Formula I, and compositions and organic light emitting devices comprising such compounds, in which M is a metal (such as Ir or Pt), n is 1 or 2, m-n is 1 or 2, and A¹ and A² are covalently joined together to form a bidentate ligand wherein the bidentate ligand has any of the first four formulae shown in present claim 14, wherein the phenylquinoline ligand is substituted with at least one substituent selected from halogen such as F, alkyl such as methyl, or aryl.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-7, 9-42, 44-51, 53-96, 98-115 and 117-141 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al. (US 2001/0019782 A1) as applied to claims 1-7, 9-20, 24-27, 66-76, 78-81, 130-132 and 137 above, and for the further reasons set forth below.

Igarashi et al. disclose various specific iridium compounds within the scope of some of the present claims as set forth in the rejection under 35 U.S.C. 102(e), and suggest numerous other compounds within the scope of the present claims.

Various ligands and substituents are taught by Igarashi et al. (e.g. see paragraphs [0043]-[0045] and [0050]). Methyl, trifluoromethyl and methoxy groups are disclosed as suitable substituents, as is a fluorine atom (see the fourth, sixth and twenty-fourth lines of paragraph [0050] and the sixteenth line from the end of paragraph [0050]).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make various compounds suggested by Igarashi et al. in order to provide a variety of compounds suitable for Igarashi's light emitting device. It would have been within the level of ordinary skill of a worker in the art at the time of the invention to provide substituted compounds containing substituents at various locations on the ligands. One of ordinary skill in the art, considering Igarashi's teachings as a whole, would have recognized that combinations of

different ligands, as well as different patterns of substitution on a ligand, can provide light emitting compounds having different peak emission wavelengths (e.g. see Igarashi's Examples). It would have been within the level of ordinary skill of a worker in the art to determine suitable and optimum combinations of ligands, combinations of substituents, and substitution patterns appropriate for the intended use of the compound and a light emitting device comprising such a compound.

It would also have been within the level of ordinary skill of a worker in the art at the time of the invention, given Igarashi's teachings as a whole, to determine suitable materials to be used in combination with Igarashi's compounds. One of ordinary skill in the art would have been motivated to select a specific known material based on the properties that the known material would reasonably be expected to provide (such as combining a known hole transporting material with the compound in a light emitting layer in order to enhance hole transportation within the layer).

12. Claims 1-7, 9-42, 44-51, 53, 54, 58-61, 66-96, 98-115, 117, 118, 122-125 and 130-141 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grushin et al. (US 2002/0121638 A1) as applied to claims 1, 2, 5-7, 12, 13, 19, 21, 24-28, 32-34, 36, 40-42, 44, 45, 49-51, 66-69, 72-76, 78-82, 86-88, 90, 94-96, 98-102, 104-109, 113-115, 130-134 and 137-139 above, and for the further reasons set forth below.

Grushin et al. disclose a specific iridium compound within the scope of some of the present claims as set forth in the rejection under 35 U.S.C. 102(e), and suggest numerous other compounds within the scope of the present claims.

Grushin et al. teach that in the ligand(s) having the structure (I) shown on page 1, adjacent pairs of R₁-R₄ can join to form a six-membered ring. Structure (I) in which R₃ and R₄ join to form a six-membered aromatic ring, as in Grushin's compounds of formulae (III) and (IV), provides the phenylquinoline ligand of present formulae I, IV and VI. Structure (I) in which R₂ and R₃ join to form a six-membered aromatic ring provides the phenylisoquinoline ligand of present formula II. Structure (I) in which R₁ and R₂ join to form a six-membered aromatic ring provides the phenylisoquinoline ligand of present formulae III and V.

Grushin's compounds are required to comprise at least one fluorine, fluorinated alkyl or fluorinated alkoxy group. The compounds may contain other substituents such as alkyl or alkoxy groups (e.g. see paragraph [0039] and see Table 1 which defines compounds containing a methoxy group in addition to a fluorinated group).

In addition to the ligands having the structure (I), Grushin et al. teach that the compounds may have at least one additional ligand selected from “[a]ny conventional ligands known to transition metal coordination chemistry” such as acetylacetone as a bidentate ligand or chloride and nitrate ions as monodentate ligands, with two monodentate ligands having a combined net charge of minus one (paragraph [0042]).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make various compounds suggested by Grushin et al. in order to provide a

variety of compounds suitable for Grushin's light emitting device. It would have been within the level of ordinary skill of a worker in the art at the time of the invention to provide substituted compounds containing substituents at various locations on the ligands. One of ordinary skill in the art, considering Grushin's teachings as a whole, would have recognized that combinations of different ligands, as well as different patterns of substitution on a ligand, can provide light emitting compounds having different peak emission wavelengths (e.g. see Table 7). It would have been within the level of ordinary skill of a worker in the art to determine suitable and optimum combinations of ligands, combinations of substituents, and substitution patterns appropriate for the intended use of the compound and a light emitting device comprising such a compound.

It would also have been within the level of ordinary skill of a worker in the art at the time of the invention, given Grushin's teachings as a whole, to determine suitable materials to be used in combination with Grushin's compounds. One of ordinary skill in the art would have been motivated to select a specific known material based on the properties that the known material would reasonably be expected to provide (such as combining a known hole transporting material with the compound in a light emitting layer in order to enhance hole transportation within the layer).

13. Claims 1, 4-8, 12-14, 18-20, 22, 24-27, 65-68, 71-78, 129-132, 136 and 137 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2002/0034656 A1) as

applied to claims 1, 4-8, 12-14, 18-20, 22, 24-27, 65-68, 71-76, 78, 129-132, 136 and 137 above, and for the further reasons set forth below.

(Current Office assignment records indicate that the present application and the application published as Thompson's '656 publication are not commonly owned. Absent a showing of common ownership at the time the invention was made, Thompson's '656 publication is available as prior art under 35 U.S.C. 103(a).)

To the extent that the selection of arylquinoline ligands as shown in Fig. 49 for Thompson's compounds of formula L_2MX may be considered to be picking and choosing, rather than providing compounds that one of ordinary skill in the art at the time of the invention would at once envisage, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make various compounds having ligands of the structures specifically disclosed in Thompson's published application. One of ordinary skill in the art would have been motivated to provide a variety of compounds within the scope of Thompson's disclosure in order to provide a variety of compounds suitable for use in an organic light emitting device as taught by Thompson. One of ordinary skill in the art would have reasonably expected that compounds of formula L_2MX having two arylquinoline ligands of the formula shown in Thompson's Fig. 49 and having an X-ligand selected from those shown in Fig. 49 or taught in paragraph [0183], would provide light emissive compounds suitable for use in Thompson's device. Further, one of ordinary skill in the art at the time of the invention, given Thompson's disclosure as a whole, would have reasonably expected that the arylquinoline ligands of the formula shown in Fig. 49 could be unsubstituted or substituted with one or more substituents such as a methyl group or a

methoxy group. One of ordinary skill in the art would have reasonably expected at least methyl and methoxy groups to be suitable substituents based on Thompson's disclosure of other compounds comprising these substituents.

14. Claims 1, 2, 5-8, 12-14, 18-20, 23-54, 61-64, 66-69, 72-118, 125-128, 130-135 and 137-140 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamansky et al. (US 2002/0182441 A1) as applied to claims 1, 2, 5-8, 12-14, 18-20, 23-43, 66-69, 72-76, 78, 82-102, 104, 130-133, 137 and 138 above, and for the further reasons set forth below.

(Current Office assignment records indicate that the present application and the application published as Lamansky's '441 publication are not commonly owned. Absent a showing of common ownership at the time the invention was made, Lamansky's '441 publication is available as prior art under 35 U.S.C. 103(a).)

To the extent that the selection of the phenylquinoline ligand shown in claims 5 and 9 of Lamansky's published application may be considered to be picking and choosing, rather than providing compounds that one of ordinary skill in the art at the time of the invention would at once envisage, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make various compounds having ligands of the structures specifically disclosed in Lamansky's published application. One of ordinary skill in the art would have been motivated to provide a variety of compounds within the scope of Lamansky's claims in order to provide a variety of compounds suitable for use in an organic light emitting device as taught and claimed by Lamansky. One of ordinary skill in the art would have reasonably expected that

compounds of Lamansky's claims having one or two phenylquinoline ligands of the formula shown in Lamansky's claims 5 and 9 would provide light emissive compounds suitable for use in Lamansky's device.

Further, with respect to the compound required by present independent claims 44, 53, 108 and 117, and claims dependent therefrom, it would have been within the level of ordinary skill of a worker in the art to provide substituents at various positions on the phenylquinoline ligand, and it would have been *prima facie* obvious to provide one or more fluorine or methyl substituents since Lamansky's claims allow the phenylquinoline ligand to be substituted one or more times with halogen or alkyl substituents.

15. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

16. Claims 1, 2, 5-8, 12-14, 18-20, 23-54, 61-64, 66-69, 72-118, 125-128, 130-135 and 137-140 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 5 and 7-28 of copending Application No.

09/978,455. Although the conflicting claims are not identical, they are not patentably distinct from each other because the phenylquinoline ligand necessary to provide the present compound of Formula I is specifically set forth in the copending claims, as are various ligands suitable for use as A¹ and A² to provide the present compound of Formula I.

The copending claims also cover embodiments in which the compound is used in combination with one or more other materials; selection of a particular material from known materials would have been within the level of ordinary skill of a worker in the art.

The copending claims do not claim a method as in present claims 66, 67, 130 and 131, but the presently claimed method would inherently be carried out in making the compounds and devices encompassed by the copending claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

17. With respect to the prior art rejections set forth in this Office action, applicants are respectfully requested to note that an affidavit or declaration under 37 CFR 1.131 cannot be used to overcome a rejection where the reference is a noncommonly owned U.S. patent application publication claiming the same invention as applicant and its publication date is less than one year prior to the presentation of claims to that invention in the present application. See MPEP 715.05.

Some of the claims of Grushin's published application (the '638 publication) and of Lamansky's published application are considered by the examiner to be claiming the same invention as claimed in the present application.

18. The references made of record and not relied upon are considered pertinent to applicants' disclosure.

The published application of Kamatani et al. (US 2003/0068526 A1) is not available as prior art. However, Kamatani's application is of interest because it discloses numerous specific compounds within the scope of the present claims, contains claims directed to subject matter similar to that claimed in the present application, and the Kamatani application and the present application have relatively close U.S. filing dates. See all the claims, especially claims 23-38, 43, 44 and 47.

Publication No. US 2002/0190250 A1 to Grushin et al. is related to the '638 publication of Grushin et al. that is applied under 35 U.S.C. 102(e) and 103(a). The '250 publication also contains claims drawn to the same patentable invention as claimed in the present application. For example, see claims 5 and 6 of the '250 publication.

The published application of Lecloux et al. (US 2003/0108771 A1) is not available as prior art but is of interest as suggesting platinum compounds containing phenylquinoline or phenylisoquinoline ligands as in the present claims. For example, see Fig. 2, paragraph [0046] and claim 8.

19. With respect to the IDS filed February 26, 2002, the two references for which no copies have been provided have not been considered by the examiner.

20. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax numbers for Art Unit 1774 are (703) 872-9311 for official after final faxes and (703) 872-9310 or (703) 305-5408 for all other official faxes. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (703) 872-9041.)

MRY
06/27/03

Marie R. Yamnitzky

MARIE YAMNITZKY
PRIMARY EXAMINER

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